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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,473	12/10/2003	Hitoshi Tanaka	P24360	5391
7055	7590	10/20/2004		
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER HASAN, MOHAMMED A	
			ART UNIT 2873	PAPER NUMBER

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,473

Applicant(s)

TANAKA ET AL.

Examiner

Mohammed Hasan

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 9, 10 is/are rejected.
- 7) ☒ Claim(s) 2 - 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/10/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt of acknowledged of papers submitted under 35 U.S.C. 119 (a) – (d), which papers have placed of record in the file.

Oath/Declaration

2. Oath and declaration filed on 12/10/2003 is accepted.

Information Disclosure Statement

3. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 3/10/2004 have all been considered and made of record (note the attached copy of form PTO – 1449).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102 (b) as being anticipated by Kuwana et al (5,786,941).

Regarding claim 1, Kuwana et al discloses (refer to figures 1 and 6) a step – zoom lens which changes a variable focal length thereof stepwise, comprising: two movable lens groups (L1 and L2) and a lens group support unit (holding frame 31 and holding frame 32) which supports two movable lens groups, lens group support unit being linearly guided along an optical axis to perform zooming and focusing operations, wherein a distance between two movable lens groups is changed, in lens group support unit, between a first distance in a wide-angle range which ranges from a short focal length extremity to an intermediate focal length, and a second distance in a telephoto range which ranges from an intermediate focal length to a long focal length extremity and a cam ring (22) having at least one cam groove (22a) , a rotation of cam ring causing lens group support unit to move linearly along an optical axis according to cam groove, wherein a cam groove comprises a finite number of focal length steps for each of wide-angle range and telephoto range , focal – length steps being determined so as to follow a reference cam diagram for moving two movable lens groups (L1 and L2) to perform zooming operation when focused at infinity, a cam groove (22a) being determined to perform a focusing operation between an infinite photographing position and a closest photographing position at each of focal-length steps by rotation of cam ring (22) , wherein a cam groove (22a) comprises a wide-angle mode section for defining wide-angle range, a telephoto mode section for defining telephoto range, and a

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mode switching section for switching section for switching between wide-angle mode section and telephoto mode section, wherein closest photographing position in two adjacent focal-length steps are adjacent to each other and wherein one of focal-length steps of infinite photographing position at a longest focal length in a wide-angle mode section is provided at one end of mode switching section , and another of focal-length steps infinite photographing position at a shortest focal length in telephoto mode section is provided at the other end of mode switching section (column 3, lines 1 – 18, column 6, lines 37 – 67, column 7, lines 1- 11).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Kuwana et al (5,786,941).

Regarding claim 9, as applied to claim 1, Kuwana et al discloses all of the claim limitations except where the first distance is wider than the second distance. However, Kuwana et al discloses (refer to figure 6) a first lens unit L1 and a second lens unit L2 moving wide-angle zone and telephoto zone. Kuwana further discloses, a focal length floating ratio 1:1 and 2:1. (Column 6, lines 32 – 43).

It would have been obvious to have a first distance is wider than the second distance since Kuwana shows focal length floating ratio (i.e., 2:1 and 1:1).

6. Regarding claim 10 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Kuwana et al (5,786,941) in view of Nomura et al (5,659,810).

Regarding claim 10 as applied to claim 1, Kuwana discloses all of the claim limitations except telescoping barrels. However, Nomura et al discloses (refer to figures 1A , 1B and 2) telescopic barrels (120 and 124) (column 4, line 24, line 67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a telescopic barrels (120 and 124) in to the Kuwana a step zoom lens system for the purpose of a high variable magnification ratio for the zoom lens is achieved as taught by Nomura et al (column 1, lines 21 – 23).

Allowable Subject Matter

7. Claims 2 – 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails teach a linear guide ring, a switching ring member which is supported by linear guide ring to be freely movable forward and reverse in a circumferential direction of linear guide ring within a predetermined angle of rotation with

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respect to linear guide ring in association with rotation of cam ring at intermediate focal length and a switching member moving mechanism for moving switching member forward and reverse at intermediate focal length in association with rotation of cam ring and a distance changing mechanism for changing distance between two moveable lens groups between first distance and second distance in association with forward and reverse rotations of the switching member at forward and reverse rotation limits thereof, respectively .

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al (6,512,638 B2) discloses a step zoom lens camera having a zoom lens and a cam ring provided with a cam groove having step portion. The zoo lens camera includes a focusing lens group which serves also as a variable power lens group of the zoom lens and an adjusting lens group , serving also another variable power lens group of the zoom lens , which is guided by the cam groove and is moved in the optical axis direction in a non-linear relationship with respect to the rotation angle of the cam ring in each focal length step.

Imanari et al (US 2002/0063971 A1) discloses a lens barrel position detecting device and method.

Nomura et al (US 2002/0135896 A1) discloses a lens guide mechanism.

Nomura et al (5,748,388) an lens barrel having a rotating barrel and linear moving barrel.

Nomura et al (US 2004/0114253 A1) discloses a lens distance varying mechanism for varying a distance between first and second lens groups includes a first lens frame and a second lens frame rotatable relative to the first lens frame and a relative moving mechanism for moving the first and second lens frames to change a relative position there between on an optical axis when the second lens frame is position at each of forward and reverse rotation extremities thereof relative to the first lens frame.

Nakayama et al (6,028,718) discloses a zoom lens barrel in which a zoom lens is switched to a plurality of focal lengths by a moving a member by which a plurality of lens groups are moved in the direction of optical axis.

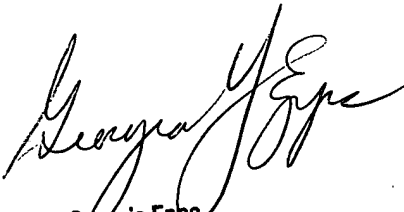
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272- 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MH
October 5, 2004



Georgia Epps
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